

CLAIMS

Having thus described the present invention in the detailed description of the preferred embodiment, what is desired to be obtained in Letters Patent is:

1. A method for the early diagnosis of diseases in a human induced by abnormal functioning of cellular genomes, the steps of the method comprising:

- a) sampling blood of the human;
- b) dividing the blood into plasma and cellular fractions;
- c) isolating extra-cellular nucleic acids (exNA); and
- d) revealing specific sequences of nucleic acids by means

of polymerase chain reaction with subsequent analysis of the presence or absence of specific sequences in total PCR products, whereby cell-surface-bound extra-cellular nucleic acids are used as a source of extra-cellular nucleic acids instead of exNA isolated from plasma fraction, and whereby the cellular fraction is divided into leukocytes and erythrocytes, cell-bound-surface extra-cellular nucleic acids are subsequently eluted from cell surface, exNA are isolated from elutes and these exNA are use for analysis of at least two specific sequences of exNA distinctive for the disease.

2. The method according to Claim 1, the steps of the method further comprising:

a) providing a two-stage elution of exNA from the surface of leukocytes;

b) eluting exNA by treatment of cells with 10 volumes of PBS supplied with 5mM EDTA at 4°C;

c) pelleting of cells by centrifugation and collection of supernatant;

d) eluting of exNA with 0.25% trypsin solution;

e) inactivating of an enzyme with trypsin inhibitor; and

f) centrifugation collection of supernatant.

3. The method according to Claim 1, wherein exNA is isolated by means of increased glass-milk protocol.

4. The method according to Claim 1, wherein early detection of cancer or pathologies of pregnancy is indicated.